9428

Diag. Cht. Nos. 1001-3 & 1243-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC

Field No. HI-40-1-74

Office No. H-9428

LOCALITY

State FLORIDA - GEORGIA

General Locality APPROACHES TO ST. MARYS ENT.

Locality OFF FERNANDINA BEACH, FLORIDA

19 74

CHIEF OF PARTY
R. M. BUFFINGTON

LIBRARY & ARCHIVES

DATE 4-18-75

☆ U.S. GOV. PRINTING OFFICE: 1975—668-353

FORM C&GS-537
(8-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

H-9428

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

MI-40-1-74

State Florida - Georgia

General locality ~~Southeast Atlantic Coast~~ Approaches to St Marys Entrance

Locality ~~Vicinity of~~ Off Fernandina Beach, Florida

Scale 1:40,000 Date of survey 5 June 1974 to 30 June 1974

Instructions dated 24 October 1974 Project No. OPR-436-MI-74

Vessel NOAA Ship MT MITCHELL

Chief of party Ronald M. Buffington, CDR, NOAA, Commanding Officer

Surveyed by Ship's Personnel

Soundings taken by echo sounder, ~~hand lead, pole~~ Ross Fineline Echo Sounder

Graphic record scaled by Ship's Personnel

Graphic record checked by ARS - LGC

Protracted by CALCOMP AMC Automated plot by CALCOMP - AMC

Soundings penciled by CALCOMP AMC

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS: Surveyed by: CDR Richard DeRycke
LT Martin Mulhern
LT(jg) Earl W. Fenstermacher
Ens. Paul B. Loiseau
Ens. Robert J. Pawlowski
Ens. Dennis M. Kuhl
Ens. David Pasciuti
Ens. Thomas G. Russell
Ens. Michael Ziolko
Ens. Karen O'Donnell
Ens. Evelyn J. Fields

Charts
1242
1243
1001
1097
111
841sc
453

Applied to Stds 5-29-75

ADP

USCOMM-DC 19086-P65

Descriptive Report

To Accompany

Hydrographic Survey MI-40-1-74

Registry Number H-9428

OPR-436-MI-74

Southeast Atlantic Coast

1974 Field Season

NOAA Ship MT MITCHELL (MSS-22)

Ronald M. Buffington
CDR, NOAA
Commanding Officer

A. PROJECT

This survey is a portion of project of OPR-436-MI-74, Southeast Atlantic Coast, in accordance with Project Instructions dated 24 October 1973, Change No. 1 dated 6 December 1973, Change No. 2 dated 8 February 1974 and Change No. 4 dated 8 July 1974. The Registry Number is H-9428.

B. AREA SURVEYED

This survey was conducted between the limits of safe navigation for the MT MITCHELL (approximately the 5 fathom curve) and the 11 fathom curve in the vicinity of Fernandina Beach, Florida. The work was done continually from 5 June 1974 to 30 June 1974 with a later development completed on 3 July 1974.

The limits of this survey can be described by connecting the following points starting in the southwest corner and proceeding counter-clockwise:

Latitude	030-34'.5 N
Longitude	081-23'.6 W
Latitude	030-51'.2 N
Longitude	081-19'.7 W

Latitude	030-51'.2 N
Longitude	080-52'.8 W
Latitude	030-34'.5 N
Longitude	080-59'.0 W

C. SOUNDING VESSEL

The NOAA Ship MT MITCHELL (MSS-22) was used to obtain all data for this survey. The Hydroplot System on board consists of a Digitial Equipment Corporation PDP-8/E Computer, a Hydroplot Controller, and a Houston Instruments Complot DP-3 Roll Plotter. The Hydroplot System was used to record and plot all positions and soundings.

D. SOUNDING EQUIPMENT

All soundings were recorded to the nearest tenth of a foot. Sounding instruments used included the Ross Fineline Echo Sounder (Model #5000, Serial #1050), the Ross Digitizer (Model #6000, Serial #86092) and the Ross Transceiver (Model #4000, Serial #1052). The transducer used throughout the survey is mounted on the ship's skeg. For the purpose of this survey, the ship's usual Sea-Fix receiving antenna, located on the foremast, 105 feet forward of the transducer, was shifted to an antenna located on the aftermast, 10 feet forward of the skeg transducer.

All soundings were entered into the Hydroplot System from the Ross Digitizer via the Hydroplot Controller.

All graphic records were scanned in accordance with the Hydrographic Manual (Publication 20-2) by trained personnel and spot checked by the officer-in-charge and the Commanding Officer.

Erroneous soundings on the master tape printouts caused by wave action and digitizer malfunctions as well as all insert soundings were entered on the electronic corrector tapes. An electronic corrector tape accompanies the master tape for each day of the survey.

Prior to the commencement of the survey a complete calibration of the Ross echo sounder, including the belt length check, was accomplished by the electronic technicians. A final calibration was taken at the beginning of the next survey undertaken by the vessel, MI-40-2-74, Registry Number H-9449.

Phase checks of the Ross echo sounder were made at approximately one hour intervals during the on-line operation of the survey. Any error noted due to error in the initial setting or phase was compensated for during the scanning of the fathograms.

Draft measurements were taken frequently throughout the survey, usually every other day as sea conditions permitted. The measurements were taken with the vessel dead in the water while a standard tape was used to measure the distance from the gunwale to the water surface on both the port and starboard sides with the observer directly over the skeg transducer. The mean of these readings was used to compute the transducer draft. A constant draft of 13.4 feet was applied to on-line soundings from Julian Day 156, 5 June 1974, to Julian Day 158, 7 June 1974 and 13.0 feet was applied from Julian Day 162, 11 June 1974 to the end of the survey on Julian Day 184, 3 July 1974. The final draft correction was applied via the electronic corrector tapes to its exact value based on the measurements described above. An abstract of the draft measurements taken and an abstract of the draft correction applied to the soundings are included in the work sheets which accompany the records from this survey.

Velocity correctors for this survey were organized into two tables (Table 01 and 02). The correctors are based on serial temperature casts taken at the following locations: Application correct

Cast No.	Latitude	Longitude	Date
9	30-39'.1 N	080-59'.1 W	13 June 1974
10	30-47'.4 N	081-17'.8 W	16 June 1974

A separate report, "Corrections to Echo Soundings" will be forwarded with the survey records. An abstract of each table and its associated graph is included with this report.

Settlement and squat corrections are based on measurements taken during the 1974 field season. Points for the graph were taken at 190, 140 and 105 revolutions per minute, all speeds at full pitch on both engines. The corrections given are for the skeg transducer. Linear interpolation between the above values was utilized to determine correctors for intermediate speeds. For speeds less than 105 rpms at full pitch, a corrector of 0.0 feet should be applied.

Instrument error for the Ross echo sounder is based on lead line comparisons taken on 23 April 1974 and is applied to all soundings as it appears on the TC/TI Tape.

E. SMOOTH SHEET

The smooth sheet for this survey will be produced at the Atlantic Marine Center, Norfolk, Virginia. The following tapes and their respective printouts are furnished for this purpose:

Master Data Tapes (Hyperbolic): These tapes were produced on-line by the Hydroplot System. Data on these tapes consist of the following:

Time (GMT)
Raw Echo Soundings
Position Numbers
Raw Sea-Fix readings for each sounding
Whole lane and partial lane corrections (used only while on-line)
Ship's draft correctors (used only while on-line)
Predicted tide corrections (used only while on-line)

Electronic Corrector Tapes: These tapes were produced off-line on board the vessel. Data on these tapes consist of the following:

Final lane correctors
Correctors for mis-read soundings
Insert soundings
Final draft corrections

TRA Corrector/Table Indicator (TC/TI) Tape: This tape was prepared on-board and contains the following information for input into the Atlantic Marine Center's Data Processing System:

Instrument error correction
Settlement and Squat Correctors
Velocity table indicator

Velocity Table Tape: The velocity corrector tape was prepared off-line on board the vessel. It contains the necessary information to correct the soundings for changes in sound velocity.

ASCII Signal Tapes: These tapes, prepared on board, contain the latitude-longitude and the identity numbers of all of the signals used in the Jacksonville Beach, Florida calibration area. A list of the signals, including identity numbers, names and geographic positions, is included in this report.

Parameter Tapes: These tapes were prepared on board. They provide the necessary information for plotting both the basic latitude-longitude grids and the on-line/off-line plots of the soundings on the 21 inch wide roll plotter sheets.

Parameter Tapes (for Program RK 561): This tape was generated for input into the RK 561 "Geodetic Calibration" Program, version dated 23 August 1974.

F. CONTROL

Decca Sea-Fix operating at a frequency of 1618.65 KHz, was used in hyperbolic mode for all position and sounding control throughout the survey. The locations of the stations as provided by the Atlantic Marine Center are as follows:

Station	Latitude	Longitude
St. John's Raydist, Fla.	030-23'-40".366N	081-23'-41".056W
Simon, 1974	031-08'-27".12N	081-22'-33".11W
Radd 2, 1974, Georgia	032-01'-12".30N	080-50'-35".22W

All visual calibrations were by three point sextant fixes with a check angle. The Sea-Fix were recorded simultaneously with the visual fix. Program RK 561 "Geodetic Calibration", version 23 August 1974, was used to compute two sets of sea fix lane values for each slave from the three point visual fix. The mean of these two fixes was compared with the observed Sea-Fix values to yield a corrector with the proper algebraic sign. These correctors were carried in the Hydroplot Controller and applied to all on-line soundings during a continuous period of operations, with the only additional correctors being applied for changes in the whole lane count.

At the completion of a work period, the Sea-Fix was calibrated again for the tenths and hundredths of a lane. This last calibration was meaned with the first calibration for the value that is to be applied to all final soundings and appears on the electronic corrector tapes.

In order to minimize the amount of long running time to and from the calibration area, lane counts were established at two floating aids to navigation located within the limits of the survey: Brunswick Coastal Wreck Lighted Bell Buoy "WR2" and St. Mary's Entrance Lighted Whistle Buoy "STM". The vessel returned frequently to either of these two buoys to

check the whole lane count of the Sea-Fix by the circling method. This method requires the vessel to circle the buoy at close range, reading the Sea-Fix dials when the ship is on either side of the buoy tangent to the Sea-Fix arcs which denotes its position. Two readings for each pattern are thus obtained; the mean value being used for the lane count.

G. SHORELINE

There is no shoreline within the limits of this survey.

H. CROSSLINES

The percentage of crosslines run was 5.7% of the regular system of sounding lines. The agreement between the crosslines and sounding lines is good.

I. JUNCTIONS

This survey junctions along a portion of its western limit with ~~contemporary~~ survey H-8179, 1955 (1:10,000), H-8106, 1954-1955 (1:10,000) and with the 1973 field season work of the MT MITCHELL, H-9373, (1:80,000). Along the entire eastern limit is H-9366, (1:80,000). To the north is H-9449, (1:40,000), 1974 MT MITCHELL.

J. COMPARISON WITH PRIOR SURVEYS

The folowing pre-survey review items were investigated by developments:

Development #1

This development was an investigation of an unnumbered pre-survey review item in which a 36 foot depth is presently charted at Latitude 30-43'.3 N, Longitude 81-19'.9 W. A lesser depth of 31.1 feet ~~(corrected for draft and predicted tides)~~ was found at Latitude 30-~~42~~'-~~44~~".~~06~~ N, Longitude 81-19'-~~43~~".~~22~~ W.

Development #5

This was an investigation of an unnumbered pre-survey review item with a charted 30 foot depth at Latitude 30-47'.3 N, Longitude 81-~~19~~ .~~0~~ W. A ~~29~~.8 foot sounding was encountered ~~(corrected for draft and predicted tides)~~ 0.5 nautical miles to the east a Latitude 30-~~43~~'-13".44, Longitude 81-18'-26".94 W. It is recommended that this sounding supersede the prior sounding for charting purposes.

Development #6

This development investigated an unnumbered pre-survey review item. A 33 foot sounding is presently charted at Latitude 30-49'.3, Longitude 81-19'.1 W reportedly in error and should be corrected to read 38 feet. The development revealed all soundings in the area to be less than 36 feet ~~(corrected for draft and predicted tides)~~ with the least depth being 32.0 feet at Latitude 30-49'-~~18~~32".15, Longitude 81-19'-~~20~~31".~~24~~7. It is the recommendation here that the 33 foot sounding ~~remain as~~ charted ~~or~~ be superseded by the 32 foot sounding when verified.

Development #8

This development investigated an unnumbered pre-survey review item reporting a 36 foot depth at Latitude 30-4~~5~~6'.3 N, Longitude 81-15'.8 W. The least depth found was ~~32.5~~ 33.0 feet ~~(corrected for draft and predicted tides)~~ at Latitude 30-46'-17".59 N, Longitude 81-15'-49".47 W.

Development #9

An unnumbered pre-survey review item reported a charted depth of 31 feet at Latitude 30-45'.~~7~~8N, Longitude 81-16'.1 W. The least depth encountered ~~(corrected for draft and predicted tides)~~ was 29.~~2~~0 feet at Latitude 30-45'-30'.36 N, Longitude 81-16'-09".06 W.

Development #11

This development investigated an unnumbered pre-survey review item in which a 37 foot depth is charted at Latitude 30-44'.4 N, Longitude 81-13'.6 W. A lesser depth of ~~33.7~~ 34.0 feet was encountered ~~(corrected for draft and predicted tides)~~ at Latitude 30-44'-~~21~~10".~~1~~5 N, Longitude 81-13'-45".50 W. It is recommended that this sounding supersede the previous sounding for charting purposes.

Development #13

This development was an investigation of an unnumbered pre-survey review item in which a 40 foot depth is presently charted for the area at Latitude 30-49'.3 N, Longitude 81-11'.1 W. The least depth found ~~(corrected for draft and predicted tides)~~ was ~~36.9~~ 38.0 feet at Latitude 30-49'-16".20 N, Longitude 81-11'-0~~8~~9".49 W. It is recommended that this sounding be used for charting in the area.

Development #14

This development investigated an unnumbered pre-survey review

item in Latitude 30-48'.0 N, Longitude 81-10'.0 W where a 41 foot depth is charted. The least depth found was ~~39~~ 48.8.0 feet ~~(corrected for draft and predicted tides)~~ at Latitude 30-47'-54".39 N, Longitude 81-10'-07".66 W.

Development #16

This was an investigation of an unnumbered pre-survey review item in which a 58 foot depth is charted at Latitude 30-50'.72 N, Longitude 81-59'.9 W. The least depth found was ~~53.6~~ 59.0 feet ~~(corrected for draft and predicted tides)~~ at Latitude 30-50'-15".18 N, Longitude ~~81-00'-14".77~~ 80 59' 50".0 W.

Development #17

A development of an unnumbered pre-survey review item in the area of Latitude 30-43'.8 N, Longitude 81-09'.3 W, encountered a least depth (~~corrected for draft and predicted tides~~) of ~~43.9~~ 45.0 feet at Latitude 30-43'-33".73 N, Longitude 81-09'-22".96 W in comparison to the previous charted depth of 46 feet.

Development #18

A development of an unnumbered pre-survey review item charted in the area of Latitude 30-40'.1 N, Longitude 81-05'.4 W was first run on Julian Day 181, 30 June 1974 and then continued on Julian Day 184, 3 July 1974. The least depth encountered between the two runs was ~~49.9~~ 51.0 feet, ~~(corrected for draft and predicted tides)~~ in comparison with the 52 foot depth presently charted for the area, at Latitude 30-39'-~~38~~".~~25~~ 39 67 N, Longitude 81-05'-~~11~~ 01".~~26~~ 65 W.

Development #19

This development was an investigation of an unnumbered pre-survey review item in which a 60 foot sounding is presently charted at Latitude 30-35'.87 N, Longitude 81-05'.5 W. The least depth encountered ~~(corrected for draft and predicted tides)~~ was ~~55.7~~ 57.0 feet at Latitude 30-35'-~~33~~ 27 N, Longitude 81-05'-14".70 W.

Development #20

This development was an investigation of an unnumbered pre-survey review item where a depth of 57 feet is presently charted at Latitude 30-37'.0 N, Longitude 81-09'.12 W. The development revealed a shallower depth of ~~54.2~~ 56.0 feet at Latitude 30-37'-01".61 N, Longitude 81-08'-58".97 W.

Development #22

This was an unnumbered pre-survey review item of a 48 foot depth charted at Latitude 30-38'.1 N, Longitude 81-13'.4 W. The development revealed a ~~46.5~~ 48.0 foot depth ~~(corrected for draft and predicted tides)~~ at Latitude 30-38'-11".~~94~~ 36 N, Longitude 81-13'-24".20 W.

Development #24

A 49 foot depth at Latitude 30-36'.7 N, Longitude 81-14'.2 W was listed as an unnumbered pre-survey review item and investigated. The least depth encountered was a 49.0 ~~48.4~~ feet ~~(corrected for draft and predicted tides)~~ at Latitude 30-36'-~~29~~ 50 .0".~~95~~ N, Longitude 81-14'-~~25~~ 03 .~~64~~ 9 W.

Development #25 and #26

An unnumbered pre-survey review item listing a 38 foot depth at Latitude 30-35'.7 N, Longitude 81-19'.7 W was investigated revealing a shoaler depth of ~~36.8~~ 37.9 feet (~~corrected for draft and predicted tides~~) at Latitude 30-35'-32".81 N, Longitude 81-19'-40".00 W.

Development #26

This development investigated an unnumbered pre-survey review item in which a 38 foot depth is presently charted in Latitude 30-35'.7 N, Longitude 81-19'.7 W. A least depth of 39.0 feet was found at Latitude 30-35'-32".74 N, Longitude 81-19'-41".98 W. Upon applying additional corrections to the sounding for sound velocity, settlement and squat, and instrument error, this sounding should correspond to the previous sounding in the pre-survey review.

Development #27

This was an unnumbered pre-survey review item locating a charted sounding of ~~28~~ 30 feet at Latitude 30-35'.1 N, Longitude 81-21'.3 W. A least depth of ~~29.2~~ feet ~~(corrected for draft and predicted tides)~~ was found at Latitude 30-35'-04".87 N, Longitude 81-21'-04".23 W. ~~When corrected for sound velocity, settlement and squat, and instrument error, this sounding should yield the depth of the pre-survey review item~~.

Development #28

This development was an investigation of an unnumbered pre-survey review item locating a 36 foot depth at Latitude 30-36'.4 N, Longitude 81-20'.1 W. A lesser depth of ~~33.0~~ 34.0 feet was encountered

~~(corrected for draft and predicted tides)~~ at Latitude 30-36'-20".38 N, Longitude 81-20'-11".13 W. It is recommended that this depth be placed on the chart for the least depth of this area.

Development #29 and #30

These two developments were run together to investigate several unnumbered pre-survey review items located centrally about Latitude 30-38'.04N, Longitude 81-21'.0 W. The least depth for the entire area was located at Latitude 30-37'-59".88 N, Longitude 81-20'-59".28 W as a ~~52.2~~ 26.0 foot sounding ~~(corrected for draft and predicted tides)~~.

Development #32

This development was to investigate a 36 foot depth charted at a central position of 30-40'.0 N, Longitude 81-17'.9 W. The development revealed the existence of the shoal area with a least depth ~~(corrected for draft and predicted tides)~~ of ~~32.7~~ 33.0 feet at Latitude 30-~~39~~ 40'-~~57~~ 17".~~61~~ 0 N, Longitude 81-17'-47".09 W.

Development #33

Development #33 was to investigate an unnumbered pre-survey review item with a charted sounding of 39 feet at Latitude 30-41'.5 N, Longitude 81-17'.1 W. A lesser depth of ~~37.3~~ 38.0 feet was encountered ~~(corrected for draft and predicted tides)~~ at Latitude 30-41'-37".14 N, Longitude 81-17'-20".56 W.

Development #34

Development #34 was an investigation of a 32 foot shoal in Latitude 30-41'.78 N, Longitude 81-19'.21 W listed as an unnumbered pre-survey review item. A least depth of 29.1 feet was revealed for the area ~~(corrected for draft and predicted tides)~~ at Latitude 30-40'-55".85 N, Longitude 81-19'-09".77 W.

Development #35

This development was an investigation of an unnumbered pre-survey review item reporting a 28 foot depth at Latitude 30-42'.3 N, Longitude 81-19'.3 W. A least depth of 28.~~4~~0 feet ~~(corrected for draft and predicted tides)~~ was found at Latitude 30-42'-~~19~~ 14".~~00~~ 5 N, Longitude 81-19'-~~05~~ 09".~~43~~ 3 W.

The following developments did not cover items listed in the pre-survey review:

Development #2

This was a development of shoaling in the area due in part to the formation of sand waves which are indicated on the fathogram trace. The least depth found for the area was 33.2 feet (corrected for draft and predicted tides) at Latitude 30-44'-05".90 N, Longitude 81-18'-41".11 W.

Development #3

Shoaling in this area was due to the formation of sand waves. The least depth found (corrected for draft and predicted tides) was 34.6 feet at Latitude 30-45'-02".63 N, Longitude 81-19'-25".57 W.

Development #4

This was an investigation of shoaling in the area. The least depth found was 29.0 feet (corrected for draft and predicted tides) at Latitude 30-46'-24".48 N, Longitude 81-18'-49".25 W.

Development #7

This was an investigation of shoaling in the area. The least depth found was 28.6 feet (corrected for draft and predicted tides) at Latitude 30-43'-31".68 N, Longitude 81-17'-44".72 W.

Development #10

This was an investigation of shoaling in the area with the least depth being found as 36.6 feet (corrected for draft and predicted tides) at Latitude 30-43'-31".68 N, Longitude 81-14'-57".04 W.

Development #12

This was an investigation of shoaling in the area in which the least depth encountered was 37.5 feet (corrected for draft and predicted tides) at Latitude 30-46'-38".50 N, Longitude 81-12'-02".54 W.

Development #15

This was an investigation of shoaling in the area. The least depth for this development was 41.2 feet (corrected for draft and predicted tides) at Latitude 30-50'-08".38 N, Longitude 81-06'-14".46 W.

Development #21

The least depth found in this area was 54.0 feet at Latitude 30-31'-21".21 N, Longitude 81-08'-48".18 W.

Development #23

An investigation of this area revealed a least depth of ~~48.0~~ 50.0 feet ~~(corrected for draft and predicted tides)~~ at Latitude 30-36'-~~50~~26".~~15~~44 N, Longitude 81-14'-~~03~~25".~~76~~57 W.

Prior survey H-3770, 1:80,000, 1915 was compared with only fair results. Of the five soundings from this prior survey, none agreed within two feet. In comparing with prior survey H-3769, 1:20,000, only one of the five soundings was in agreement; with one sounding disagreeing by as much as 14 feet. This disagreement is attributed to the inaccuracies of the prior surveys.

K. COMPARISON WITH THE CHART

Comparison with NOS Chart 448 (8th Edition, September 16, 1972, corrected through the latest applicable Notice to Mariners) showed good agreement with the soundings and depth curves.

Comparison with NOS Chart 453, (27th Edition, May 5, 1973, corrected through the latest applicable Notice to Mariners) showed good agreement with the soundings and depth curves.

Comparison with NOS Chart 1242 (11th Edition, January 20, 1973, corrected through the latest Notice to Mariners) showed good agreement with the soundings and depth curves except in two areas. The first such area is in the southern approach to the St. Mary's River in Latitude 30-42'.1 N, Longitude 81-20'.8 W where 52 and 53 foot soundings are presently charted. The findings of this survey indicated much shoaler water, with the shoalest depths of 28 and 29 feet located in Latitude 30-42'.1 N, Longitude 81-19'.2 W (see developments 34 and 35). The second area is Latitude 30-40'.5 N, Longitude 81-10'.0 W where 62 to 67 foot soundings are presently plotted. The area was found to be generally shoaler with ~~52~~53 to ~~55~~56 foot soundings (corrected for draft and predicted tides) encountered.

L. ADEQUACY OF THE SURVEY

This survey is complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

Two official aids to navigation maintained by the U. S. Coast Guard were within the survey limits and located by the vessel as follows:

NAME	LATITUDE	LONGITUDE
Brunswick Coastal Wreck Lighted Bell Buoy "WR2" (Light List #38)	30-50'-44".50 N	81-~~10~~'-~~00~~".~~24~~ W 09 59 0
St. Mary's Entrance Lighted Whis Buoy "STM" (Light List #39)	30-42'-35".02 N	81-19'-~~16~~".~~52~~ W 18 .0

Five
~~Four~~ fish haven buoys, privately maintained by the Jacksonville Offshore Sport Fishing Club, Jacksonville, Florida, were located within the limits of the survey. These buoys are bucket shaped, red with a white horizontal stripe, and have a bamboo pole extending four to five feet above the bucket. They are positioned using Loran A. Note that the fish haven buoy "HH" North was located by the MT MITCHELL during the 1973 field season on survey H-9373. The position established by this survey is in good agreement with the prior survey.

The following is a list of the fish haven buoys located:

BUOY	LATITUDE	LONGITUDE
FA	30-38'-~~49~~ 53".31 N	81-13'-4~~2~~ 3".02 W
FB	30-39'-~~33~~ 27".95 N	81-09'-40".66 W
FC	30-38'-18".53 N	81-11'-55".12 W
HH North	30-34'-~~00~~ 33".~~78~~ 0 N	81-08'-23".62 W
HH South	30-34'-00".78 N	81-08'-32".99 W

N. STATISTICS

Linear nautical miles of sounding lines: 4109
Linear nautical miles of miscellaneous distance: 741
Linear nautical miles to and from the working area: 795
Square nautical miles (area surveyed): 353
Bottom samples: 13
Serial temperature: 2
Water samples analyzed: 5
Crosslines, percentage: 5.7

O. MISCELLANEOUS

All times and dates used during this survey are Universal Time (formerly Greenwich Mean Time).

A "Hydrographic Operations Log" (sounding volume) was used for recording remarks and supplementary data appropriate to this survey.

Bottom samples were obtained using a Shipek grab sampler. The samples were forwarded to Dr. J. W. Pierce, Division of Sedimentology, Smithsonian Institute, Washington, D.C. 20560, as per standing instructions. Form 733M, "Bottom Sediment Data" was completed and the original is included in this report. A copy of the form was forwarded with the samples.

The complot sheets plotted on board and the overlay sheets showing the developments and bottom samples have been forwarded to the Atlantic Marine Center, Norfolk, Virginia. The soundings on these sheets are corrected for draft and predicted tides only. Using the Hydroplot System, all soundings, except insert soundings, are fixed positions. Insert soundings are plotted on time and course between two fixed position soundings.

During the survey, two lane losses occurred which were not detected by the ship's personnel until a later time, causing some of the regular lines to be run at an incorrect spacing. The first such lane loss occurred on Julian Day 156, 5 June 1974 and was not detected until the end of the work period on Julian Day 158, 7 June 1974. The second such lane loss occurred on Julian Day 166, 15 June 1974 and was not detected until Julian Day 170, 19 June 1974. In both cases it was necessary for the vessel to readjust the line spacing in these areas in order to comply with the line spacing requirements outlined in the project instructions, as amended.

P. RECOMMENDATIONS

Recommendation based on the findings of this survey have been given under specific developments in Section J.

Q. REFERENCE TO REPORTS

The reports which are listed below are necessary for a complete evaluation and understanding of this survey:

a) Correction to Echo Soundings, MI-40-1-74, H-9428, Southeast Atlantic Coast, NOAA Ship MT MITCHELL, 1974.

b) Electronic Control Report, MI-40-1-74, H-9428, Southeast Atlantic Coast, NOAA Ship MT MITCHELL, 1974.

Respectfully submitted,

David Pasciuti

David Pasciuti
ENS, NOAA

Approval Sheet

Field Number MI-40-1-74

Registry Number H-9428

The field work and processing of data from this hydrographic survey was under my daily supervision. The sheet and records have been reviewed and are approved by me.

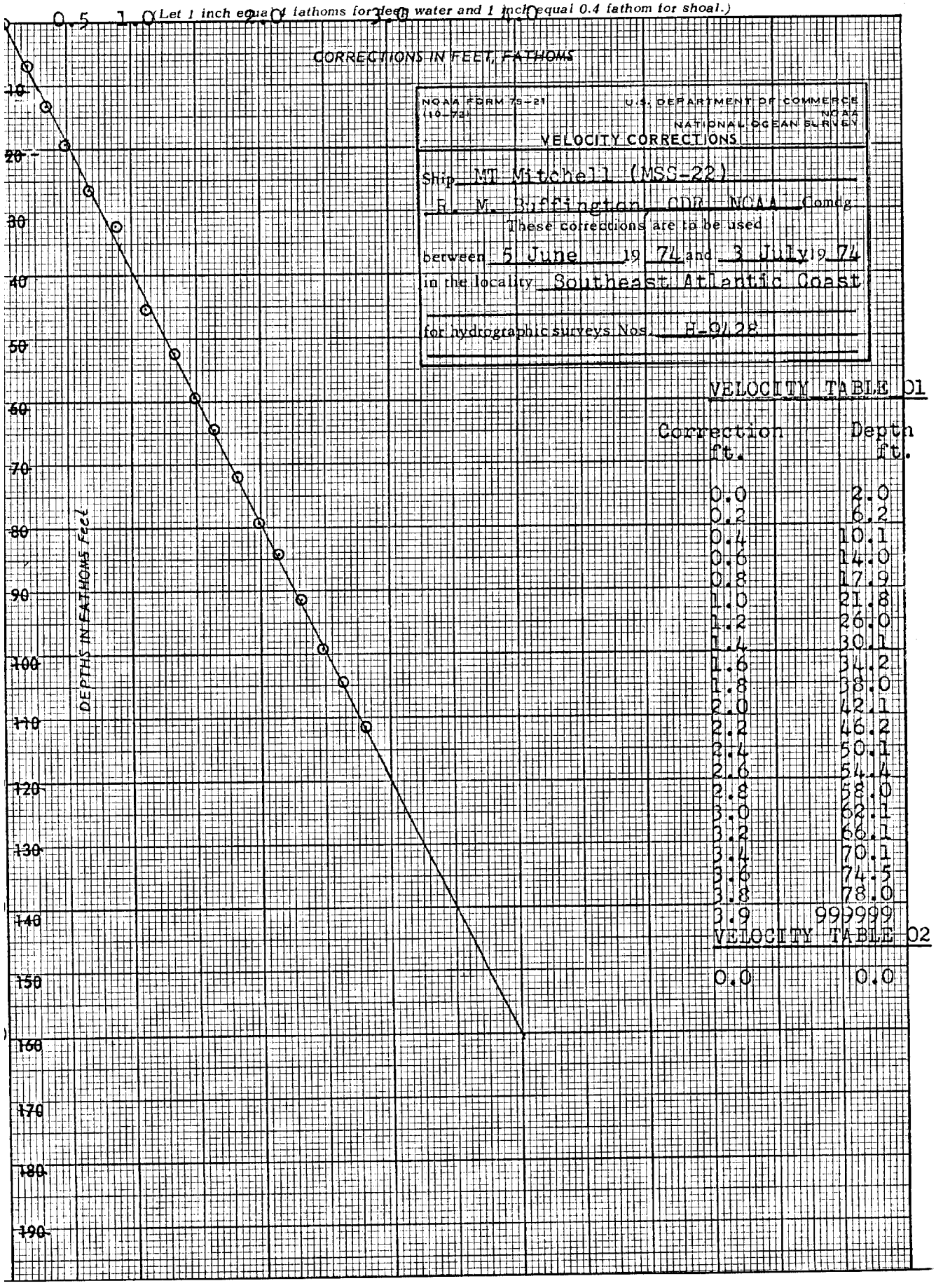
Ronald M. Buffington
CDR, NOAA
Commanding Officer

BOATSHEET MI-401-74

REGISTRY NUMBER H-9428

JACKSONVILLE BEACH - MAYPORT, FLORIDA
CALIBRATION STATIONS - 1974

SIGNAL NUMBER	STATION DESCRIPTION	LATITUDE	LONGITUDE	
010	CALIBRATION BUILDING TRIANGULAR FRAME 1973	30 23 44.30	081 23 42.26	243 ✓
020	ST.JOHN'S RIVER LIGHT HOUSE 1905,(BRICK STRUCTURE, ABANDONED)	30 23 35.99	081 25 34.22	139 ✓
030	MAYPORT MICROWAVE TOWER 1973,(SINGLE REFLECTOR ON THREE LEGS,RED LIGHT ON TOP)	30 23 26.44	081 24 26.50	139 ✓
040	MAYPORT TANK 1973 (RED AND WHITE CHECKED)	30 23 14.12	081 24 41.65	087 ✓
050	ST.JOHNS LIGHTHOUSE (NEW) 1954,(ATOP 48 1/2 FT. CONCRETE BLOCK TOWER)	30 23 09.29	081 23 53.52	139 ✓
060	ATLANTIC BEACH TANK 1973 (GREEN TANK ON 4 LEGS & CENTER PIPE,2 RED LIGHTS ON TOP)	30 20 07.19	081 24 19.23	087
070	NEPTUNE TANK 1973 (LIGHT GREEN ON 6 LEGS & CENTER PIPE, RED LIGHT ON TOP)	30 18 55.97	081 24 37.07	087
080	NEPTUNE MICROWAVE 1973 (FOUR REFLECTORS ON RED & WHITE TOWER)	30 18 17.54	081 23 46.76	139 ✓
090	JAX BEACH TANK 1973 (SILVER ON SIX LEGS & CENTER PIPE)	30 17 51.66	081 24 19.16	087
100	LIGHT ON BUILDING 1973 (PABLO TOWERS APARTMENTS)	30 17 11.97	081 23 28.17	243 ✓
110	SOUTH JAX BEACH TANK 1973 (SILVER ON 6 LEGS & CENTER PIPE, RED LIGHT ON TOP)	30 16 10.39	081 23 18.01	087
120	PONTE VERDRA 1973 (WHITE SPHERE WITH RED SEAHORSE ON GREEN STAND)	30 14 08.70	081 22 41.54	243



NOAA FORM 76-21 (10-72) U.S. DEPARTMENT OF COMMERCE NOAA NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship MT Mitchell (MSS-22)

R. M. Buffington, CDR, NOAA, Comdg.

These corrections are to be used

between 5 June 19 74 and 3 July 19 74

in the locality Southeast Atlantic Coast

for hydrographic surveys Nos. H-9128

VELOCITY TABLE 01

Correction ft.	Depth ft.
0.0	2.0
0.2	6.2
0.4	10.1
0.6	14.0
0.8	17.9
1.0	21.8
1.2	26.0
1.4	30.1
1.6	34.2
1.8	38.0
2.0	42.1
2.2	46.2
2.4	50.1
2.6	54.4
2.8	58.0
3.0	62.1
3.2	66.1
3.4	70.1
3.6	74.5
3.8	78.0
3.9	999999

VELOCITY TABLE 02

0.0	0.0

NOAA Ship MT MITCHELL MSS-22

Settlement and Squat Tests

Settlement and Squat tests were run on the Pilot Town Cut Range of the St. Johns River off the Navy fuel receiving pier, Mayport, Florida. The approximate water depth in the area was 38 feet. Correctors to be applied as settlement and squat were determined from readings taken with a Zeiss N-2 level, model #20606, positioned on the pier, and sighting on a Philadelphia leveling rod held in position on the ship.

The leveling rod was positioned on the center of the fantail capstan (frame #107, centerline) to insure the onshore observer a clear line of sight. In this position the leveling rod was displaced horizontally from the skeg transducer (frame #105, centerline) a distance of 3.5 feet.

Tidal data used for these tests was taken from a tide staff positioned on the N.E. corner of the Navy fuel receiving pier. Tide readings were taken every two minutes for the duration of the runs with an additional reading taken each time the leveling rod was read.

Draft readings were taken subsequent to the completion of the settlement and squat runs with the draft aft at the transducer found to be 13.9 feet. Pacific plastics survey launches MI 3 and MI 5 were on board in davits 5 and 6. Settlement and squat was run using both ship's engines; no fuel was being transferred at the time of the tests.

An abstract of the data, graph of the settlement and squat curve, and table of the recommended settlement and squat correctors is attached.

Karen L. O'Donnell

Karen L. O'Donnell
Ensign, NOAA

22 July 1974

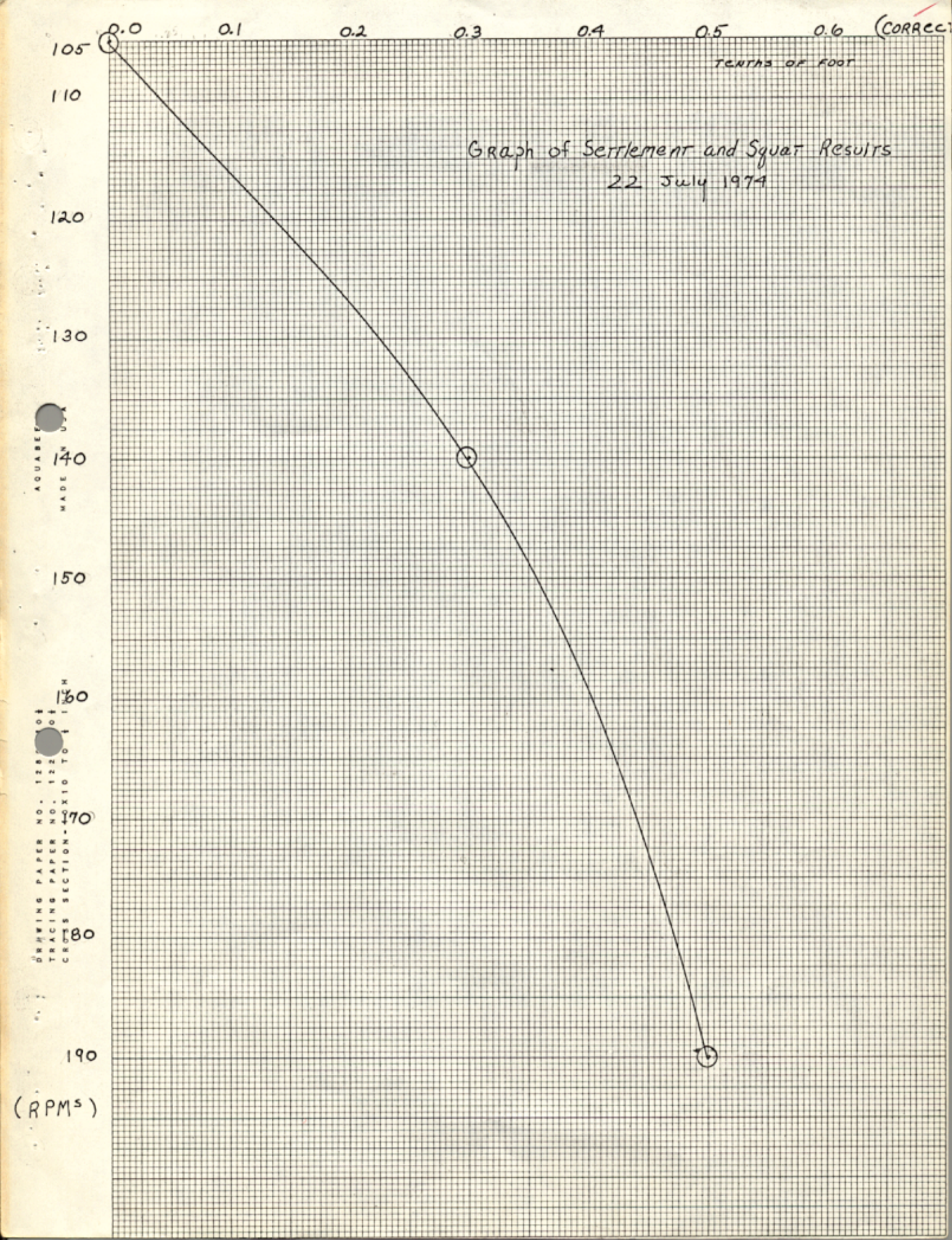
NOAA Ship MT MITCHELL MSS-22

Abstract of Settlement and Squat Correctors

RPM'S	S+S Correctors (ft)	S+S Correctors (ft)
105	0.0	0.0
110	0.045	0.0
120	0.140	0.1
130	0.225	0.2
140	0.300	0.3
150	0.356	0.4
160	0.403	0.4
170	0.440	0.4
180	0.472	0.5
190	0.500	0.5

Computed by: Evelyn J. Fields

Checked by: David Pasciuti


0.0
0.1
0.2
0.3
0.4
0.5
0.6
(CORREC
TENTHS OF FOOT
105
110
120
130
140
150
160
170
180
190
(RPMs)
Graph of Settlement and Squat Results
22 July 1974
AQUABEE
MADE IN U.S.A.
DRAWING PAPER NO. 126
TRACING PAPER NO. 122
CROSS SECTION - X10 TO 1 INCH

ATLANTIC MARINE CENTER
VERIFICATION OF SMOOTH TIDES

SURVEY H- 9428

PLANE OF REFERENCE: MLW OR MLLW
TIME MERIDIAN: 0 GMT
HEIGHT DATUM ON STAFFS: 1. 4.9 2. 27.8 3. _____ 4. _____

TIDE STATIONS	POSITION	TYPE GAGE	TIME CORR. H.W.	TIME CORR. L.W.	HEIGHT CORR.* H.W.	HEIGHT CORR.* L.W.
1. St. Simon Island	φ 31° 08' λ 81° 23.8'					
2. Little Talbot Is.	φ 30° 25.8' λ 81° 24.3'					
3.	φ λ					
4.	φ λ					

HOURLY HEIGHTS: [x] FROM ROCKVILLE OFFICE
[x] FROM FIELD MARIGRAMS VERIFIED BY: Rockville

TIDE ZONING: [ ] NOT APPLICABLE
[ ] BY COMPUTER
[x] FROM TWO OR MORE GAGES

LIMITS AND DESCRIPTION OF ZONING METHODS:

TIDE CORRECTIONS COMPILED: [x] BY COMPUTER VERIFIED BY: GFT
[ ] MANUALLY VERIFIED BY: _____

HEIGHT OF MHW ABOVE PLANE OF REFERENCE: 6.0

TIDE CORRECTIONS VERIFIED ON SOUNDING PRINTOUT BY: GFT

DATE OF VERIFICATION: 10/30/74

*OR RATIO

EXAMINED AND APPROVED

[signature]

8/28/74

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): St. Simon Island
Little Talbot Island

Period: June 5 - July 3, 1974

HYDROGRAPHIC SHEET: H9428

OPR: 437

Locality: Off Coast of Northern Florida and Southern Georgia

Plane of reference (mean ~~lower~~ low water): 4.9 ft. St. Simon Is.
27.8 ft. Little Talbot Is.

Height of Mean High Water above Plane of Reference is 6.0 ft.

Remarks: Recommended automated zoning.

St. Simon Is.
31° 08.0' / 81° 23.8'

Lt. Talbot Is.
30° 25.8' / 81° 29.3'

James R. Hubbard
for Chief, Oceanographic Div.

NOAA FORM 76-155
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SURVEY NUMBER

H-9428

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ATLANTIC OCEAN										1
St. Marys Entrance										2
Fernandina Beach										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
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										17
										18
										19
										20
										21
										22
										23
										24
										25

Approved
Chas. E. Harrington
Staff Geographer
11 June 1975

U.S. G.P.O. 1972-769-565/516 REG.#6

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H-9428

A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

Date: April 11, 1975

Signed: William L. Jonns
William L. Jonns
Title: Chief, Verification Branch

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: April 11, 1975

Signed: C. Dale North, Jr.
C. Dale North, Jr., LCDR, NOAA
Title: Chief, Processing Division

NOAA FORM 77-27
(9-72)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9428

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & 2-Overlays	1	BOAT SHEETS	4
DESCRIPTIVE REPORT	1	OVERLAYS	2

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
A ~~[illegible]~~ ENVELOPES						1
CAHIERS	2		1			
VOLUMES	2					
Package			1	1		

T-SHEET PRINTS *(List)* N/A

SPECIAL REPORTS *(List)*

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				3422
POSITIONS CHECKED		300	✓	
POSITIONS REVISED		1	✓	
DEPTH SOUNDINGS REVISED	315	32	10	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0	✓	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	✓	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		0	✓	
JUNCTIONS		2	10	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS	60	5	40	
SPECIAL ADJUSTMENTS (Corr. Excess)		50	20	
ALL OTHER WORK		193	48	
TOTALS	60	310	118	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY Robert R. Hill	Sept. 17, 1974	Jan. 24, 1975
VERIFICATION BY Charles Meekins	Feb. 14, 1975	Mar. 12, 1975
REVIEW BY S Baumgardner	Sept. 15, 1975	Oct 22, 1975

Insp. Romesburg 13 hr 10/22/76
Carstens 18 hr 2/10/77

★ U.S. G.P.O. 1972-769-562/439 REG. #6

REGISTRY NO. H-9428

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

REGISTRY NO. 9428

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 5-27-82 TIME REQUIRED_____ INITIALS JAC

REMARKS:

H-9428

Information for Future Presurvey Reviews

The bottom is considered adequately developed on the present survey.

Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
304	0812	2	2	50 years
304	0811	2	2	50 years
304	0810	2	2	50 years
303	0812	3	2	50 years
303	0811	2	2	50 years
303	0813	3	2	50 years
304	0813	3	2	50 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE SURVEYS DIVISION

MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9428 FIELD NO. MI-40-1-74

Florida, Approaches to St. Marys Entrance, Off Fernandina Beach

SURVEYED: June 5-30, 1974

SCALE: 1:40,000 PROJECT NO.: OPR-436

SOUNDINGS: Ross 5000 Depth Recorder CONTROL: Decca Sea-Fix (Hyperbolic)

Chief of Party	R. M. Buffington
Surveyed by	R. DeRycke
	M. Mulhern
	E. W. Fenstermacher
	P. B. Loiseau
	R. J. Pawlowski
	D. M. Kuhl
	D. Pasciuti
	T. G. Russell
	M. Ziolko
	K. L. O'Donnell
	E. J. Fields
Automated Plot by	Cal Comp 618 (AMC)
Verified by	C. Meekins
Reviewed by	S. Baumgardner
	Date: October 22, 1975
Cursory inspection made--survey processing considered complete	D. J. Romesburg October 22, 1976

1. Control and Shoreline

The origin of control is adequately covered in part F of the Descriptive Report.

There is no shoreline within the limits of this survey.

2. Hydrography

Depths at crossings are in good agreement. The usual depth curves were adequately delineated. The 36-foot depth curve was added to emphasize bottom features. The development of the bottom configuration and the investigation of least depths are considered adequate.

3. Condition of Survey

The sounding records, smooth plotting, sounding printouts, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual - Automated Hydrographic Surveys.

4. Junctions

An adequate junction was effected with H-8179 (1955) and H-8106 (1954-55) on the west, H-9449 (1974) on the north, H-9366 (1973) on the east, H-9373 (1973) on the southeast, and H-9457 (1974) on the southwest.

H-9474 (1974) which joins the present survey on the south is presently unavailable for a junction. The junction between this survey and the present survey will be discussed in the review of H-9474 (1974). Project surveys on the northwest are not presently available.

5. Comparison with Prior Surveys

A.

H-728	(1860)	1:300,000	H-3554	(1910-12)	1:100,000
H-768	(1860)	1:500,000	H-3549	(1910-13)	1:400,000
H-3223	(1911)	1:400,000			

These early surveys fall in the area of the present survey but are not discussed in the present review.

B.

H-1110	(1871)	1:20,000
H-3555	(1910)	1:20,000
H-3769	(1915)	1:200,000
H-3770	(1915)	1:80,000

These prior surveys, taken together, cover the area of the present survey. A comparison between the present and prior surveys reveals depth differences of 1-10 feet. In general, the shoaler soundings were recorded on the present survey.

The depth differences are attributed to shifting bottom materials from tidal, storm, and Gulf Stream currents over the time span between surveys. Less accurate control methods and sounding by lead line on the earlier surveys also contributed to the depth differences. However, several shoal soundings from H-3555 (1910) have not been disproved and have been carried forward to supplement present depths.

With these additions, the present survey is adequate to supersede these prior surveys within the common area.

6. Comparison with Chart 11502 (formerly 1242) (latest print date 8/24/74)
11488 (formerly 1243) (latest print date 11/23/74)
11480 (formerly 1111) (latest print date 11/2/74)
11503 (formerly 453) (latest print date 4/26/75)
448 (latest print date 9/16/72)
11489 (formerly 841-SC)(latest print date 7/20/74)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented by the partial application of depths from the boat sheet and verified smooth sheet of the present survey and from prior information originating with Notices to Mariners and other sources.

The submerged wreck (36 feet reported) charted in latitude 30°50.75', longitude 81°09.95' on chart 11502 originates with Notice to Mariners No. 9 of 1944. This wreck was neither proved nor disproved by the present survey and should be retained on the chart.

The fish haven charted in latitude 30°50.75', longitude 81°09.75' on chart 11502 originates with L-962 (68) and should be retained on the chart.

Except as noted above, the present survey is adequate to supersede the charted information within the common area.

B. Aids to Navigation

The aids to navigation on the present survey are in substantial agreement with their charted positions and adequately mark the features intended, except for buoy "HH" charted in latitude 30°34.52', longitude 81°09.6' on chart 11488. The present survey positions this buoy in latitude 30°34.52', longitude 81°08.4'.

7. Compliance with Instructions

This survey adequately complies with the Project Instructions.

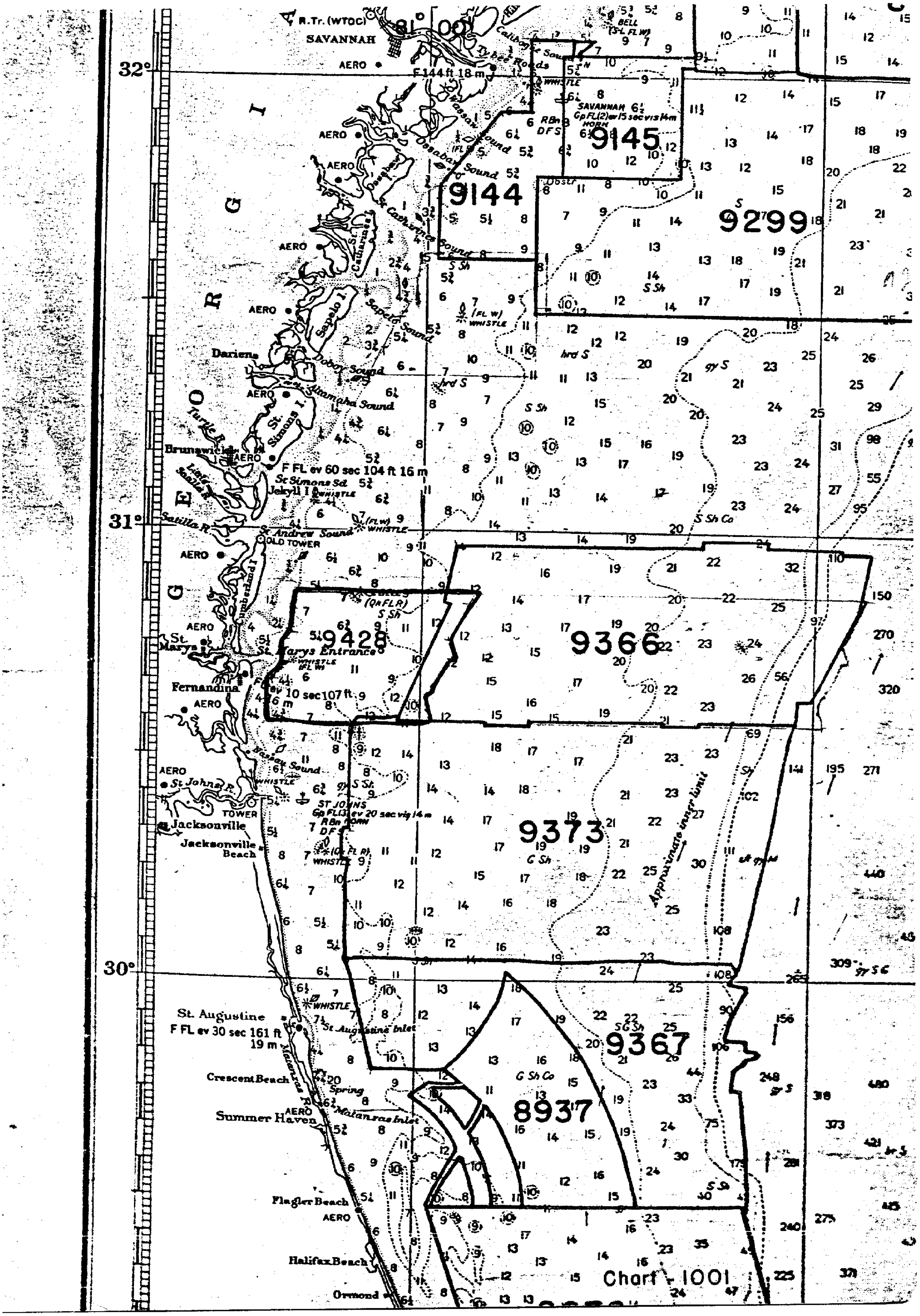
8. Additional Field Work

This is a good basic survey and no additional field work is recommended.

Examined and Approved:

A J Patrick
Chief
Marine Surveys Division

R H Houston
Associate Director
Office of Marine Surveys
and Maps



R.Tr. (WTOC)
SAVANNAH
AERO
32°
31°
30°
F 144 ft 18 m
Tybee Roads
Calibogue Sound
Wassaw Sound
Ossabaw Sound
St Catherines Sound
Sapelo Sound
Doboy Sound
Altamaha Sound
St Simons Sd
St Andrew Sound
Nassau Sound
St Augustine Inlet
Matanzas Inlet
SAVANNAH
Gp FL(2) ev 15 sec vis 14m
HORN
9145
9144
9299
9428
9366
9373
9367
8937
Sapelo I.
Darien
St. Simons I.
Brunswick
F FL ev 60 sec 104 ft 16 m
Jekyll I
Satilla R.
OLD TOWER
St. Marys
St. Marys Entrance
Fernandina
F FL ev 10 sec 107 ft 16 m
St Johns R.
TOWER
Jacksonville
Jacksonville Beach
ST JOHNS
Gp FL(3) ev 20 sec vis 14 m
Approximate inner limit
St. Augustine
F FL ev 30 sec 161 ft 19 m
Crescent Beach
Summer Haven
Matanzas R.
Flagler Beach
Halifax Beach
Ormond
WHISTLE
Chart - 1001

(3-25-83) NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9428

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
453	6-3-75	D. Coutts	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via Drawing No. BEFORE No Critical Corrs.
1243	6-3-75	D. Coutts	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via Drawing No. BEFORE App'd Critical Corrs
1111	6-4-75	D Coutts	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via Drawing No. BEFORE Appd Critical Corrs.
448	7/18/75	Jay Sherman	~~Full~~ Part ~~Before~~ After Verification Before Review Inspection Signed Via Drawing No. Appl'd critical CORRS
841	7/18/75	Jay Sherman	~~Full~~ Part ~~Before~~ After Verification Before Review Inspection Signed Via Drawing No. EXAM / NO CORR
1242	7/21/75	Jay Sherman	~~Full~~ Part ~~Before~~ Adequately After Verification Before Review Inspection Signed Via Drawing No. appld critical Corrs only
448	3/26/76	F B Powers	Full ~~Part~~ ~~Before~~ After Verification Review before completion Inspection Signed Via Drawing No. [redacted] Preliminary
11489 (841-34"B")	4-8-76	H.M. Schantz	(Full) ~~Part~~ ~~Before~~ Adequately After Verification Review ~~Inspection Signed~~ Via Drawing No.
11503 (453)	6-16-86	E Bodamer	Adequately ~~Full~~ Part Before After Verification Review ~~Inspection Signed~~ Via Drawing No.
1243	8-10-76	E Bodamer	Adequately ~~Full Part~~ Before After Verification Review ~~Inspection Signed~~ Via Drawing No. Part thru cht 841 - part direct
1242	9/1/76	TOMMIE ALEXANDER	Adequately after Review before Inspection Category I (Scope project)
11503	4/2/79	JAY SHERMAN	FULLY APPLD AFTER R & I
11480	2-18-81	Allan Zyla	full ~~Adequately~~ applied to Dwg 32
11009	6/8/82	B Fauntleroy	Applied through cht 11480 Dwg #32 to 11009 #48

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975. USCOMM-DC 8558-P63

NOAA FORM 75-96
(10-83)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9428

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
411	9/14/90	D. [signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 62 THRU 11009 #48.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.